



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,221	09/12/2003	Sean Baggott	1275-19	6822
23869	7590	11/22/2005	EXAMINER	
HOFFMANN & BARON, LLP 6900 JERICO TURNPIKE SYOSSET, NY 11791			DRODGE, JOSEPH W	
			ART UNIT	PAPER NUMBER
			1723	
DATE MAILED: 11/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

74

Office Action Summary	Application No. 10/661,221	Applicant(s) BAGGOTT ET AL.	
	Examiner Joseph W. Drodge	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1103</u> . | 6) <input type="checkbox"/> Other: ____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,6-24 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Pittner patent 4,574,049. For apparatus claims 19-23, Pittner discloses water feed conduits coupled between upstream pre-treatment members including carbon filter 16 [as in claims 22 and 23] and 1st reverse osmosis (RO) systems 50 and 52 (each having inlet and permeate and reject outlets) and also coupled between systems 50 and 52 and 1st or 2nd reverse osmosis system 74 (also having inlet 100, reject outlet 102 and permeate outlet 104). Sodium hydroxide storage tank with pump 80 and feed line 78 constitute chemical processing equipment since the NaOH chemically processes the water (column 4, lines 12-18). For claim 20, see pumps 42 and 84 and pressure-regulating valve 46. For claim 21, it is the permeate from reverse osmosis system 50 or 52 that feeds into downstream RO system 74.

For the apparatus claims; recitation of the contaminants originating in upstream process condensate have little patentable weight since the claimed apparatus components are only drawn to components of a water treatment system. Similarly, “chemical processing equipment” is not necessarily positively recited as a part of water treatment apparatus and can alternatively either be read on chemical processing of the water as it is treated by the water treatment apparatus or read out of the claims as functionally worded intended apparatus use.

Art Unit: 1723

Regarding independent method claims 1 and 24, the chemical processing, 1st and 2nd RO system providing, water feed providing and pressure applying/adjusting steps were discussed with respect to claim 19. Pittner additionally discloses removal of contaminants beginning at column 1, lines 9-19 and pH adjustments at column 4, lines 44-48, etc. Claim wording arrangement is such that the "water feed exposed to a chemical process" can either be interpreted as a part of the water contaminant removing system or as apparatus upstream of such system; while "in-line" permits the "reverse osmosis system" , or "first osmosis system" to be either upstream or downstream of the water feed conduit where a chemical process is occurring with the water passing through the system.

For claims 2,17,18 and 27 carbonate and organic contaminants are removed (column 4, lines 27-30 and 40-42).

Regarding various other dependent claims, Pittner also discloses the following: for claims 6,7,9 and 26, adjustment of pH upstream of the 1st RO system (column 6, lines 9-13), for claims 8 and 9 and upstream deaerator (column 6, lines 4-5), for claims 10,11,23 and 28 upstream components including NF filtration and activated carbon filter (column 2,lines 63-68), for claim 12 a pressure within recited range at column 3,line 65, for claim 13, temperature adjustment at column 3, lines 7-11, for claim 14 removal of most of the contaminants at column 4, line 55, for claim 15, recycling of permeate to a point of use (column 2, lines 38-40), for claim 18 adjustment of pH for 2nd RO system (column 4, beginning at line 5), for claim 20 upstream pump 10 and pressure reducing or control device 84, for claim 21, 2nd pump 84.

Art Unit: 1723

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3,5,27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pittner in view of Collentro et al patent 5,766,479.

Claims 3,5 and 27 differ from Pittner in requiring nitrogen or amine contaminants. Collentro teaches removing various contaminants by RO systems in series to produce ultrapure water as in Pittner, with contaminants removed including ammonia (column 1, lines 5-16 and column 8, lines 55-62). It would have been obvious for one of ordinary skill in the art to have operated the Pittner system to remove ammonia or other nitrogen-containing contaminants, since Collentro teaches that presence of such substance precludes the water product from having ultra-pure properties.

Claim 29 differs in requiring the 2nd, or a 2nd RO system to receive retentate from the 1st upstream RO system. However, it would have been obvious to have directed retentate from the 1st RO system of Pittner to a downstream RO system, since Collentro teaches that such processing ultimately results in a higher yield of ultrapure water product.

Claims 4,25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pittner in view of Tonelli et al patent 5,997,545.

Regarding claim 4 that requires an RO membrane to be spiral wound, it would have been obvious to have utilized such type membrane in the Pittner system, since Tonnelli teaches in a further system of RO systems in series, that spiral wound membranes (column 4, lines 37-41) have high contaminant loading or removal capacities.

Regarding claims 25 and 26 which require tanks utilized in the pH adjusting steps, it would have been obvious to have utilized tanks in mechanisms for feeding pH adjusting chemicals to the feed in the Pittner process, since Tonelli uses containers, i.e.

Art Unit: 1723

tanks to add such chemicals at column 9, lines 20-27 with the inherent advantage of allowing for larger flow volumes of such chemicals to treat larger volumes of water.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hammer et al patent 6,506,306 teaches recycling water from the effluent of one type of chemical processing system after RO treatment for reuse.

Art Unit: 1723


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

November 17, 2005


JOSEPH DRODGE
PRIMARY EXAMINER